Product

Commissionpedia – Electronic Sourcebook for Building Commissioning

Technology

Commissionpedia is an electronic sourcebook available through the Internet in electronic form (Adobe Acrobat Portable Document Format [PDF]) for use in the commissioning, recommissioning, or retrocommissioning of Army buildings. *Commissionpedia* provides an electronic sourcebook of tools, specifications, regulations, publications, case studies, and other information needed to commission, recommission, or retrocommission Army buildings.

Problem

Today's buildings consist of complex energy systems with advanced controls and system interactions. When building energy systems are not working properly, they waste large amounts of energy, and can cause occupant discomfort, which reduces morale and productivity.

Commissioning (Cx) is a systematic process of verifying and documenting that building systems or subsystems perform interactively according to the design intent and the owner's operational needs. Recommissioning (ReCx) involves "tuning up" an existing system to improve its performance, so that, ideally, the system functions "like new." Retrocommissioning is applied to buildings that have never gone through any formal type of commissioning or quality assurance process. Cx/ReCx can dramatically improve energy efficiencies while achieving tangible results for building occupants. An investment of about $0.30/sq ft for commissioning a new building can accrue energy savings from 20 to 50%. ReCx costs between $0.05 and $0.40/sq ft and can save 5 to 20% in energy use at older buildings. Improved comfort can improve worker performance and reduce complaints to the Directorate of Public Works (DPW). To perform or specify Cx/ReCx work, DPWs typically have had to consult many different resources—a time-consuming process.

Expected Cost To Implement

Commissionpedia is available through the Internet free of charge to any user with a personal computer and Web access. Note that using a high speed Internet connection will ensure best results.

Benefits/Savings

Commissionpedia gives Army Corps of Engineers and DPW personnel (engineers and architects, project managers, quality assurance representatives, operations and maintenance staff, and building owners) and contractor personnel (construction managers, quality control inspectors, and subcontractors) needed information on the intent and application of building commissioning practices. *Commissionpedia* provides DPWs that must commission building energy systems with a single, consolidated source of information that replaces hundreds of sources for guidance on how to successfully perform Cx/ReCx tasks.

New Company Headquarters building during construction at Fort Campbell, KY.

Successfully commissioned buildings are energy efficient, comfortable workplaces. An investment of about $0.30/sq ft for commissioning a new building can accrue energy savings from 20 to 50%. ReCx costs between $0.05 and $0.40/sq ft and can save 5 to 20% in energy use at older buildings. Improved comfort can improve worker performance and reduce complaints to the DPW.

Status   *Commissionpedia* is a completed product, freely accessible through the Internet. A limited number of *Commissionpedia* CD-ROMs are also available for distribution to U.S. government organizations from the listed ERDC POC.

ERDC POC   Dahtzen Chu, General Engineer, Construction Engineering Research Laboratory (CERL), P.O. Box 9005, Champaign, IL, 61826-9005. Phone: 217-373-6784, Fax: 217-373-6740, e-mail: dahtzen.chu@erdc.usace.army.mil

Distribution Sources   *Commissionpedia* is available through URL:

http://www.cecer.army.mil/kdsites/hvac/commissionpedia/commissionpedia.pdf

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Commissionpedia files, which are formatted in Adobe PDF format, require the Adobe Acrobat reader, which is also available free of charge through URL:

http://www.adobe.com/products/acrobat/readstep2.html

Available Documentation   *Commissionpedia* is a self-documenting group of hyperlinked files that consolidate a volume of independent material.

Available Training   No specific training is required to access or use *Commissionpedia*. Users may direct specific questions to the listed ERDC POC. Government users may request additional training, on a reimbursable basis, from the listed ERDC POC.

The content and use of *Commissionpedia* files is briefly addressed in several Proponent Sponsored Engineer Corps Training (PROSPECT) courses:

- Course 35HQV01A, *HVAC Control Systems: QV*:
- Course 35HVC01A, *HVAC Control Systems: Design & QV*:
- Course 72HOM01A, *HVAC Control Systems: O&M*:
- Course 35BHV01A, *HVAC Design: Basic*:
- Course 35TAB01A, *HVAC Systems TA&B – QV*:
- Course 35MSC01A, *HVAC Systems Commissioning*:

Enrollment in PROSPECT courses should be coordinated through the District training officer and the USACE Learning Center. The Learning Center web page provides full contact information and a searchable online catalog with course descriptions, prerequisites, cost, time, and location, through URL:

http://ulc.usace.army.mil/

Available Support   No formal support is provided to *Commissionpedia* users. Specific questions may be directed to the listed ERDC POC. Government users may request additional support, on a reimbursable basis, from the listed ERDC POC.